

We claim:

1. A process for preparing meta- or para-xylylenediamine, comprising the steps of
5 ammoxidizing meta- or para-xylene to iso- or terephthalonitrile, by contacting the
vaporious product of the ammoxidation stage directly with a liquid organic solvent
(quench), and
hydrogenating the phthalonitrile in the resulting quench solution or suspension,
wherein the organic solvent is N-methyl-2-pyrrolidone (NMP).
- 10 2. The process according to claim 1 for preparing meta-xylylenediamine, comprising
the steps of ammoxidizing meta-xylene to isophthalonitrile and hydrogenating the
isophthalonitrile.
- 15 3. The process according to either of claims 1 and 2, wherein, before the
hydrogenation of the phthalonitrile, water and any products having a boiling point
lower than phthalonitrile (low boilers) are partly or fully removed by distillation
from the resulting quench solution or suspension.
- 20 4. The process according to any of the preceding claims, wherein, before the
hydrogenation of the phthalonitrile, there is no removal of products having a
boiling point higher than phthalonitrile (high boilers) from the resulting quench
solution or suspension.
- 25 5. The process according to any of the preceding claims, wherein the ammoxidation
is carried out at temperatures of from 300 to 500°C over a catalyst comprising V,
Sb and/or Cr, as an unsupported catalyst or on an inert support.
- 30 6. The process according to any of the preceding claims, wherein the temperature
of the quench effluent in the quench with NMP is from 40 to 180°C.
- 35 7. The process according to any of the preceding claims, wherein the hydrogenation
is carried out in the presence of ammonia.
8. The process according to any of the preceding claims, wherein the hydrogenation
is carried out at temperatures of from 40 to 150°C over a catalyst comprising Ni,
Co and/or Fe, as an unsupported catalyst or on an inert support.
- 40 9. The process according to any of the preceding claims, wherein, after the
hydrogenation, the xylylenediamine is purified by distilling off NMP, any
ammonia, and also any relatively low-boiling by-products, via the top and
distillatively removing relatively high-boiling impurities via the bottom.

10. The process according to any of the preceding claims, wherein, after the hydrogenation, the NMP, any ammonia, and also any relatively low-boiling by-products, are distilled off via the top and, afterwards, any relatively high-boiling impurities are removed from the xylylenediamine by distillation via the bottom.
- 5 11. The process according to either of the two preceding claims, wherein the xylylenediamine, after the distillation, is extracted for further purification with an organic solvent.
- 10 12. The process according to the preceding claim, wherein cyclohexane or methylcyclohexane are used for the extraction.